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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,759	11/26/2003	Jun-whan Kim	Q78711	4171
23373 7590 05/29/2007 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER YUEN, KAN	
			ART UNIT 2616	PAPER NUMBER
			MAIL DATE 05/29/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/721,759	KIM, JUN-WHAN	
	Examiner	Art Unit	
	Kan Yuen	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-22 and 24-35 is/are rejected.
- 7) ☐ Claim(s) 7 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413). |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/16/2004, 4/29/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 6, 22 and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Sherman (Pub No.: 2003/0161340).

In claim 6, Sherman disclosed the method of a controlled contention frame receiver, which receives a controlled contention frame through a predetermined channel from a coordinator station among stations on a network (Sherman see paragraph 0045, lines 1-2, and paragraph 0047, lines 1-15, and see fig. 2a). As shown in the reference, upon receiving the controlled contention or CC frame, the stations response; and a reservation request frame transmitter, which when the controlled contention frame is received by the controlled contention frame receiver, contends for use of the predetermined channel according to a user priority value of a data frame during a

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controlled contention interval designated by the controlled contention frame so as to acquire an exclusive right of using the predetermined channel, generates a reservation request frame as a response to the controlled contention frame when the exclusive right is acquired, and transmits the reservation request frame to the coordinator station through the predetermined channel (Sherman see paragraph 0047, lines 1-10, and 0048, lines 1-10). As shown in the reference, after the receipt of CC frame, the station responded by transmitting a RR frame. The station gained the exclusive right to transmit the RR frame in the CCI based on the priority.

Regarding to claim 22, Sherman also disclosed the method of a station polling list, comprising: (a) receiving a controlled contention frame through a predetermined channel from a coordinator station among stations on a network (Sherman see paragraph 0044, lines 1-7, and see fig. 1, fig. 2a); As shown in fig. 2a, there is a space between 206 and 208, so we can interpreted that as the priority inter-frame space. Referring in fig. 1, the HC monitoring plurality of MS in the WLAN. HC can be the coordinator; and (b) when the controlled contention frame is received, contending for use of the predetermined channel according to a user priority value of a data frame during a controlled contention interval designated by the controlled contention frame so as to acquire an exclusive right of using the predetermined channel, generating a reservation request frame as a response to the controlled contention frame when the exclusive right is acquired, and transmitting the reservation request frame to the coordinator station through the predetermined channel (Sherman see paragraph 0047, lines 1-10, and 0048, lines 1-10). As shown in the reference, after the receipt of CC

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frame, the station responded by transmitting a RR frame. The station gained the exclusive right to transmit the RR frame in the CCI based on the priority.

For claim 34, Sherman also disclosed the method of a computer readable recording medium having embodied therein a computer program for the method of claim 22 (Sherman see paragraph 0047, lines 1-15).

Claim Rejections - 35 USC § 103

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 12, 17, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman (Pub No.: 2003/0161340), in view of Benveniste (Pat No.: 6980542), and Haartsen (Pat No.: 6973067).

For claims 1 and 17, Sherman disclosed the method of a controlled contention frame transmitter, which when making a polling list is requested, generates a controlled contention frame and transmits the controlled contention frame to stations on a network through a predetermined channel using a broadcast method after a period of time corresponding to a priority inter-frame space lapses since receipt of the request of making a polling list (Sherman see paragraph 0044, lines 1-7, and see fig. 1, fig. 2a); As shown in fig. 2a, there is a space between 206 and 208, so we can interpret that as the priority inter-frame space. Referring in fig. 1, the HC monitoring plurality of MS in the WLAN by broadcast a CC frame in the WLAN to the MS. A reservation request frame receiver, which receives a reservation request frame from each of the stations through the predetermined channel as a response to the controlled contention frame during a controlled contention interval designated by the controlled contention frame (see paragraph 0048, lines 1-10, and see fig. 2a). In the reference, after the receipt of controlled contention or CC frame, the station responded by transmitting a reservation request or RR frame in the Controlled contention interval designated by the CC frame. However, Sherman did not explicitly disclosed the method of a polling list making unit, which when the reservation request frame receiver receives the reservation request frame, allocates a poll frame transmission sequence to the stations from which the reservation request frame is received, using a first come first serve method based on a sequence in which reservation request frames arrive and makes a polling list comprising the poll frame transmission sequence. Benveniste from the same or similar fields of endeavor teaches the method of a polling list making unit, which when the reservation

request frame receiver receives the reservation request frame, allocates a poll frame transmission sequence to the stations (Benveniste see column 5, lines 28-45 and fig. 2); As shown in the reference, the access point 201 receives a polling or reservation request from stations 202, and 201 generates a downlink poll frame based on the data payload. Thus, it would have been obvious to the person of ordinary skilled in the art at the time of the invention to use as taught by Benveniste in the network of Sherman. The motivation for using the method as taught by Benveniste in the network of Sherman being that the access point 201 is able to service the stations based on the priority of each station. Haartsen from the same or similar fields of endeavor teaches the method of from which the reservation request frame is received, using a first come first serve method based on a sequence in which reservation request frames arrive and makes a polling list comprising the poll frame transmission sequence (Haartsen see fig. 6, lines 20-40). As shown in the reference, the reservation is established based on first come first served. Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the method as taught by Haartsen in the network of Sherman and Benveniste. The motivation for using the method as taught by Haartsen in the network of Sherman and Benveniste being that it provides simple and convenience algorithm to generate a sequence of reservation.

Regarding to claim 12, Sherman disclosed the method of a coordinator polling list making apparatus, which when making a polling list is requested, generates a controlled contention frame and transmits the controlled contention frame to stations on a network through a predetermined channel using a broadcast method after a period of time

corresponding to a priority inter-frame space lapses since receipt of the request of making a polling list, and when a reservation request frame from each of the stations is received as a response to the controlled contention frame through the predetermined channel during a controlled contention interval designated by the controlled contention frame, allocates a poll frame transmission sequence to the stations (Sherman see paragraph 0043, lines 1-8, paragraph 0044, lines 1-8, paragraph 0047, lines 1-12, and paragraph 0048, lines 1-10, and fig. 2a). As shown in the reference, the access point generates CC frame, and broadcast the frame to the stations through a channel in WLAN; and a station polling list making apparatus, which when the controlled contention frame is received through the predetermined channel from the coordinator polling list making apparatus, contends for use of the predetermined channel according to a user priority value of a data frame during the controlled contention interval designated by the controlled contention frame so as to acquire an exclusive right of using the predetermined channel, and when the exclusive right is acquired, generates a reservation request frame as a response to the controlled contention frame and transmits the reservation request frame to the coordinator polling list making apparatus through the predetermined channel (Sherman see paragraph 0047, lines 1-10, and 0048, lines 1-10). As shown in the reference, after the receipt of CC frame, the station responded by transmitting a RR frame. The station gained the exclusive right to transmit the RR frame in the CCI based on the priority. However, Sherman did not disclose the method of from which the reservation request frame is received, using a first come first serve method based on a sequence in which reservation request frames arrive and

makes a polling list comprising the poll frame transmission sequence. Haartsen also disclosed the method of from which the reservation request frame is received, using a first come first serve method based on a sequence in which reservation request frames arrive and makes a polling list comprising the poll frame transmission sequence (Haartsen see fig. 6, lines 20-40). As shown in the reference, the reservation is established based on first come first served. Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the method as taught by Haartsen in the network of Sherman. The motivation for using the method as taught by Haartsen in the network of Sherman being that it provides simple and convenience algorithm to generate a sequence of reservation.

Regarding to claim 33, Sherman also disclosed the method of a computer readable recording medium having embodied therein a computer program for the method of claim 17 (Sherman see paragraph 0047, lines 1-15).

7. Claims 2-4, 18-20, 25, 26, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman (Pub No.: 2003/0161340), in view of Benveniste (Pat No.: 6980542), and Haartsen (Pat No.: 6973067), as applied to claim 1 above, and further in view of Yew et al. (Pub No.: 2003/0108059).

For claims 2 and 18, Benveniste disclosed the method of a poll frame transmitter, which transmits a poll frame to each of the stations, having transmitted the reservation request frames that are received by the reservation request frame receiver, through the

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predetermined channel according to the poll frame transmission sequence comprised in the polling list made by the polling list making unit (Benveniste see column 5, lines 38-45). As shown in the reference, the access point generates a poll frame and forwards it to stations 202. However, Sherman, Benveniste, and Haartsen disclosed all the subject matter of the claimed invention with the exception of a polling frame making request unit, which requests to make the polling list when the polling list is not made or when all reservation request frames are not received from the stations having transmitted the reservation request frames during the controlled contention interval. Yew et al. from the same or similar fields of endeavor teaches the method of a polling frame making request unit, which requests to make the polling list when the polling list is not made or when all reservation request frames are not received from the stations having transmitted the reservation request frames during the controlled contention interval (Yew et al. see paragraph 0092, lines 1-6). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the method as taught by Yew et al. in the network of Sherman, Benveniste, and Haartsen. The motivation for using the network as taught by Yew et al. in the network of Sherman, Benveniste, and Haartsen being that it provides CCI that is able to accommodate a slot for each station.

Regarding to claim 3, 19, 25, 30 Sherman also disclosed the method of wherein a length of the controlled contention interval is proportional to the number of stations on the network (Sherman see paragraph 0040, lines 10-25). Although the reference did not

explicitly mention about length of CCI is proportional to number of stations, however any one of ordinary skill in the art is able to do it.

Regarding to claim 4, 20, 26 and 31 Sherman also disclosed the method of wherein the network is a basic service set defined in IEEE 802.11 wireless LAN standards (Sherman see paragraph 0005, line 1-5).

8. Claims 5, 8-10, 16, 21, 24, 27, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman (Pub No.: 2003/0161340), in view of Benveniste (Pat No.: 6980542), Yew et al. (Pub No.: 2003/0108059) and Haartsen (Pat No.: 6973067), as applied to claim 4 above, and further in view of Ho et al. (Pat No.: 7151762).

For claims 5, 16, 21, 27, and 32, Yew et al. disclosed the method of wherein the poll frame comprises a frame control field, a period/ID field, a receiver address field, a basic service set ID field, a quality of service control field, a data transmitting/receiving period length field, and a frame inspection sequence field; and the quality of service control field indicates a data rate, a burst size, a delay bound, and a jitter bound (Yew et al. see fig. 4c and 4d). However, Yew et al., Sherman, Benveniste, and Haartsen did not explicitly disclosed the method of wherein the controlled contention frame comprises a frame control field, a period/ID field, a receiver address field, a basic service set ID field, a controlled contention interval length field, and a frame inspection sequence field; the reservation request frame comprises a frame control field, a period/ID field, a receiver

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address field, a basic service set ID field, a quality of service control field, an association ID field, and a frame inspection sequence field; However, Ho et al. from the same or similar fields of endeavor teaches the method of wherein the controlled contention frame comprises a frame control field, a period/ID field, a receiver address field, a basic service set ID field, a controlled contention interval length field, and a frame inspection sequence field (Ho et al. see fig. 11b); the reservation request frame comprises a frame control field, a period/ID field, a receiver address field, a basic service set ID field, a quality of service control field, an association ID field, and a frame inspection sequence field (Ho et al. see fig. 11c). Although Ho et al. did not disclosed receiver address, and CCI length, however, it well known in the art. Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the method as taught by Ho et al. in the network of Yew et al., Sherman, Benveniste, and Haartsen. The motivation for using the method as taught by Ho et al. in the network of Yew et al., Sherman, Benveniste, and Haartsen being that it provides detail information of the originating point.

Regarding to claims 8 and 24, Sherman disclosed all the subject matter of the claimed invention with the exception of a poll frame receiver, which receives a poll frame transmitted through the predetermined channel from the coordinator station according to polling frame transmission sequence comprised in a polling list a data frame transmitter, which when the poll frame is received by the poll frame receiver, transmits the data frame to a destination station among the stations through the predetermined channel during a data transmitting/receiving period designated by the

poll frame. Benveniste also disclosed the method of a poll frame receiver, which receives a poll frame transmitted through the predetermined channel from the coordinator station according to polling frame transmission sequence comprised in a polling list (Benveniste see fig. 4, and see column 5, lines 38-48). As shown in the figure, the stations have a transmitter and receiver unit; and a data frame transmitter, which when the poll frame is received by the poll frame receiver, transmits the data frame to a destination station among the stations through the predetermined channel during a data transmitting/receiving period designated by the poll frame (Benveniste see column 5, lines 50-67, and see column 6, line 1-10). As revealed in the reference, the poll frame includes a temporal period. Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the method as taught by Benveniste in the network of Sherman. The motivation for using the method as taught by Benveniste in the network of Sherman being that it provides a certain time frame to transmit the data to the stations.

Regarding to claim 9, Sherman also disclosed the method of wherein a length of the controlled contention interval is proportional to the number of stations on the network (Sherman see paragraph 0040, lines 10-25). Although the reference did not explicitly mention about length of CCI is proportional to number of stations, however any one of ordinary skill in the art is able to do it.

Regarding to claim 10, Sherman also disclosed the method of wherein the network is a basic service set defined in IEEE 802.11 wireless LAN standards (Sherman see paragraph 0005, line 1-5).

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman (Pub No.: 2003/0161340), in view of Benveniste (Pat No.: 6980542), as applied to claim 10 above, and further in view of Yew et al. (Pub No.: 2003/0108059) and Ho et al. (Pat No.: 7151762).

For claim 11, Sherman and Benveniste disclosed all the subject matter of the claimed invention with the exception of a poll frame receiver, which receives a poll frame transmitted through the predetermined channel from the coordinator station according to polling frame transmission sequence comprised in a polling list and a data frame transmitter, which when the poll frame is received by the poll frame receiver, transmits the data frame to a destination station among the stations through the predetermined channel during a data transmitting/receiving period designated by the poll frame. Yew et al. from the same or similar fields of endeavor disclosed the method of wherein the poll frame comprises a frame control field, a period/ID field, a receiver address field, a basic service set ID field, a quality of service control field, a data transmitting/receiving period length field, and a frame inspection sequence field; and the quality of service control field indicates a data rate, a burst size, a delay bound, and a jitter bound (Yew et al. see fig. 4c and 4d). However, Yew et al., Sherman, and Benveniste did not explicitly disclosed the method of wherein the controlled contention frame comprises a frame control field, a period/ID field, a receiver address field, a basic service set ID field, a controlled contention interval length field, and a frame inspection sequence field; the reservation request frame comprises a frame control field, a

period/ID field, a receiver address field, a basic service set ID field, a quality of service control field, an association ID field, and a frame inspection sequence field; However, Ho et al. from the same or similar fields of endeavor teaches the method of wherein the controlled contention frame comprises a frame control field, a period/ID field, a receiver address field, a basic service set ID field, a controlled contention interval length field, and a frame inspection sequence field (Ho et al. see fig. 11b); the reservation request frame comprises a frame control field, a period/ID field, a receiver address field, a basic service set ID field, a quality of service control field, an association ID field, and a frame inspection sequence field (Ho et al. see fig. 11c). Although Ho et al. did not disclosed receiver address, and CCI length, however, it well known in the art. Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the method as taught by Ho et al. in the network of Yew et al., Sherman, Benveniste. The motivation for using the method as taught by Ho et al. in the network of Yew et al., Sherman, Benveniste being that it provides detail information of the originating point.

10. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman (Pub No.: 2003/0161340), in view of Haartsen (Pat No.: 6973067), as applied to claim 12 above, and further in view of Yew et al. (Pub No.: 2003/0108059), and Benveniste (Pat No.: 6980542).

For claim 13, Sherman and Haartsen disclosed all the subject matter of the claimed invention with the exception of wherein the coordinator polling list making

apparatus requests to make the polling list when the polling list is not made or when all reservation request frames are not received from the stations having transmitted the reservation request frames during the controlled contention interval and transmits a poll frame to each of the stations, having transmitted the reservation request frames that are received, through the predetermined channel according to the poll frame transmission sequence comprised in the polling list and when the station polling list making apparatus receives the poll frame transmitted through the predetermined channel from the coordinator polling list making apparatus according to the polling frame transmission sequence comprised in the polling list, the station polling list making apparatus transmits the data frame to a destination station among the stations through the predetermined channel during a data transmitting/receiving period designated by the poll frame. Yew et al. from the same or similar fields of endeavor teaches the method of wherein the coordinator polling list making apparatus requests to make the polling list when the polling list is not made or when all reservation request frames are not received from the stations having transmitted the reservation request frames during the controlled contention interval (Yew et al. see paragraph 0092, lines 1-6). Thus, it would have been obvious to the person of ordinary skilled in the art at the time of the invention to use the method as taught by Yew et al. in the network of Sherman, Haartsen. The motivation for using the network as taught by Yew et al. in the network of Sherman, Haartsen, being that it provides CCI that is able to accommodate a slot for each station. Benveniste from the same or similar fields of endeavor teaches the method of transmits a poll frame to each of the stations, having transmitted the reservation request frames

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that are received, through the predetermined channel according to the poll frame transmission sequence comprised in the polling list (Benveniste see column 5, lines 28-45 and fig. 2). As shown in the reference, the access point 201 receives a polling request from station 202, and 201 generates a downlink poll frame based on the data payload; and when the station polling list making apparatus receives the poll frame transmitted through the predetermined channel from the coordinator polling list making apparatus according to the polling frame transmission sequence comprised in the polling list, the station polling list making apparatus transmits the data frame to a destination station among the stations through the predetermined channel during a data transmitting/receiving period designated by the poll frame (Benveniste see column 5, lines 50-67, and see column 6, line 1-10). As revealed in the reference, the poll frame includes a temporal period. Thus, it would have been obvious to the person of ordinary skilled in the art at the time of the invention to use as taught by Benveniste in the network of Sherman. The motivation for using the method as taught by Benveniste in the network of Sherman being that the access point 201 is able to service the stations based on the priority of each station.

Regarding to claim 14, Sherman also disclosed the method of wherein a length of the controlled contention interval is proportional to the number of stations on the network (Sherman see paragraph 0040, lines 10-25). Although the reference did not explicitly mention about length of CCI is proportional to number of stations, however any one of ordinary skill in the art is able to do it.

Regarding to claim 15, Sherman also disclosed the method of wherein the network is a basic service set defined in IEEE 802.11 wireless LAN standards (Sherman see paragraph 0005, line 1-5).

11. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman (Pub No.: 2003/0161340), in view of Haartsen (Pat No.: 6973067).

For claim 28, Sherman disclosed the method of making a polling list, comprising:

(a) when making a polling list is requested, generating a controlled contention frame and transmitting the controlled contention frame to stations on a network through a predetermined channel using a broadcast method after a period of time corresponding to a priority inter-frame space lapses since receipt of the request of making a polling list, and when a reservation request frame from each of the stations is received as a response to the controlled contention frame through the predetermined channel during a controlled contention interval designated by the controlled contention frame, allocating a poll frame transmission sequence to the stations (Sherman see paragraph 0043, lines 1-8, paragraph 0044, lines 1-8, paragraph 0047, lines 1-12, and paragraph 0048, lines 1-10); and (b) when the controlled contention frame is received through the predetermined channel, contending for use of the predetermined channel according to a user priority value of a data frame during the controlled contention interval designated by the controlled contention frame so as to acquire an exclusive right of using the predetermined channel, and when the exclusive right is acquired, generating a

reservation request frame as a response to the controlled contention frame and transmitting the reservation request frame to the coordinator polling list making apparatus through the predetermined channel (Sherman see paragraph 0047, lines 1-10, and 0048, lines 1-10). As shown in the reference, after the receipt of CC frame, the station responded by transmitting a RR frame. The station gained the exclusive right to transmit the RR frame in the CCI based on the priority. However, Sherman did not disclosed the method of from which the reservation request frame is received, using a first come first serve method based on a sequence in which reservation request frames arrive and making a polling list comprising the poll frame transmission sequence.

Haartsen from the same or similar fields of endeavor teaches the method of from which the reservation request frame is received, using a first come first serve method based on a sequence in which reservation request frames arrive and making a polling list comprising the poll frame transmission sequence (Haartsen see fig. 6, lines 20-40). As shown in the reference, the reservation is established based on first come first served. Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the method as taught by Haartsen in the network of Sherman. The motivation for using the method as taught by Haartsen in the network of Sherman being that it provides simple and convenience algorithm to generate a sequence of reservation.

12. Claims 29 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman (Pub No.: 2003/0161340), in view of Haartsen (Pat No.: 6973067), as applied to claim 28 above, and further in view of Yew et al. (Pub No.: 2003/0108059), and Benveniste (Pat No.: 6980542).

For claim 29, Sherman and Haartsen disclosed all the subject matter of the claimed invention with the exception of wherein the coordinator polling list making apparatus requests to make the polling list when the polling list is not made or when all reservation request frames are not received from the stations having transmitted the reservation request frames during the controlled contention interval and transmits a poll frame to each of the stations, having transmitted the reservation request frames that are received, through the predetermined channel according to the poll frame transmission sequence comprised in the polling list and when the station polling list making apparatus receives the poll frame transmitted through the predetermined channel from the coordinator polling list making apparatus according to the polling frame transmission sequence comprised in the polling list, the station polling list making apparatus transmits the data frame to a destination station among the stations through the predetermined channel during a data transmitting/receiving period designated by the poll frame. Yew et al. from the same or similar fields of endeavor teaches the method of wherein the coordinator polling list making apparatus requests to make the polling list when the polling list is not made or when all reservation request frames are not received from the stations having transmitted the reservation request frames during the controlled contention interval (Yew et al. see paragraph 0092, lines 1-6). Thus, it would

have been obvious to the person of ordinary skilled in the art at the time of the invention to use the method as taught by Yew et al. in the network of Sherman, Haartsen. The motivation for using the network as taught by Yew et al. in the network of Sherman, Haartsen, being that it provides CCI that is able to accommodate a slot for each station. Benveniste from the same or similar fields of endeavor teaches the method of transmits a poll frame to each of the stations, having transmitted the reservation request frames that are received, through the predetermined channel according to the poll frame transmission sequence comprised in the polling list (Benveniste see column 5, lines 28-45 and fig. 2). As shown in the reference, the access point 201 receives a polling request from station 202, and 201 generates a downlink poll frame based on the data payload; and when the station polling list making apparatus receives the poll frame transmitted through the predetermined channel from the coordinator polling list making apparatus according to the polling frame transmission sequence comprised in the polling list, the station polling list making apparatus transmits the data frame to a destination station among the stations through the predetermined channel during a data transmitting/receiving period designated by the poll frame (Benveniste see column 5, lines 50-67, and see column 6, line 1-10). As revealed in the reference, the poll frame includes a temporal period. Thus, it would have been obvious to the person of ordinary skilled in the art at the time of the invention to use as taught by Benveniste in the network of Sherman. The motivation for using the method as taught by Benveniste in the network of Sherman being that the access point 201 is able to service the stations based on the priority of each station.

Regarding to claim 35, Sherman also disclosed the method of a computer readable recording medium having embodied therein a computer program for the method of claim 28 (Sherman see paragraph 0047, lines 1-15).

Allowable Subject Matter

13. Claims 7 and 23 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. The prior art failed to teach the method of wherein step (b) comprises setting a coordination inter-frame space value and a contention window value according to the user priority value, detecting whether the predetermined channel is being used after a period of time corresponding to the coordination inter-frame space value and a back-off time corresponding to the contention window value sequentially lapse, acquiring the exclusive right of using the predetermined channel if the predetermined channel is not being used, and resetting the contention window value to be extended using a back-off algorithm when the exclusive right of using the predetermined channel is not acquired because the predetermined channel is being used, as recited in claims 7 and 23.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Stanwood et al. (Pub No.: 2001/0038620), Harrison (Pub No.: 2003/0176200), and Perreault et al. (Pat No.: 5651009), are show systems which considered pertinent to the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kan Yuen whose telephone number is 571-270-2413. The examiner can normally be reached on Monday-Friday 10:00a.m-3:00p.m EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky O. Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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